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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/937,561 | 09/27/2001 | Atsunari Tsuda | 110373 | 2259 |

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
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EXAMINER

ABDULSELAM, ABBAS I

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2674

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DATE MAILED: 12/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

TS

Office Action Summary

Application No.

09/937,561

Applicant(s)

TSUDA, ATSUNARI

Examiner

Abbas I Abdulsalam

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quanrud (USPN 6140983) in view of Shigeta et al. (USPN 6297788).

Regarding claims 1-4 and 7-9, Quanrud teaches a display matrix (12) including a plurality of display elements (14) each of which includes a pixel (16) and a display circuit (18), which is electrically connected to the pixel and controls the operation of pixel (16). See Fig 1. Quanrud also teaches peripheral control circuits for controlling read and write operations to the memory cells. Quanrud further teaches a three bit planes that can be strobed in a variety of time modulation schemes to achieve the eight levels of grayscale in the color of a single illumination source. Furthermore, Quanrud teaches the use of two or more memory cells per pixel in a display matrix and discloses the use of the display matrix behaving like a memory that is addressable, readable and writable. See. Fig 8(B-C) and col. 19, lines 29-35. However, Quanrud does not disclose a timing detection device that detects timing to drive the pixels in the peripheral region of the display panel. Shigeta on the other hand teaches a panel drive control circuit (2) generating pixel data timing signals. See col. 6, line 25-31 and Fig. 1.

Art Unit: 2674

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify Quanrud's display system to adapt Shigeta's panel drive control circuit (2). One would have been motivated in view of the suggestion in Shigeta that the panel drive control circuit (2) serves the same purpose as the desired timing detection device. The use of panel drive control circuit (2) helps improve contrast of liquid crystal display system as taught by Shigeta.

In addition, Shigeta teaches a multicolor image sequentially being produced with respect to the voltage pattern of the pixels and timing of liquid crystal to necessary form a source object. See col. 13, lines 29-41.

Regarding claim 5, Shigeta teaches the use of liquid crystal display panel (LCD). See col. 1, lines 8-10

Regarding claim 6, Shigeta teaches a method of color creation through filed sequential steps. See col. 4, lines 35-38

Regarding claim 10, Quanrud teaches the use of display matrix with a writable memory configuration. See col. 19, lines 29-35.

Conclusion

2. The prior art made of record and not relied upon is considered to applicant's disclosure.

The following arts are cited for further reference.

U.S. Pat. No. 6,340,961 to Tanaka et al.

U.S. Pat. No. 6,175,351 to Matsuura et al.

Art Unit: 2674

3. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

Any response to this action should be mailed to:

Commissioner of patents and Trademarks


Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand delivered responses should be brought to Crystal Park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.


RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Abbas Abdulsalam

Examiner

Art Unit 2674

December 10, 2003